

Courses offered for Postgraduate Program in AEM

Course No	Course Title	Credit Hours
AEM 6102	Quality Management Techniques	3
AEM 6111	Business Statistics	3
AEM 6112	Quantitative Analysis	3
AEM 6113	Business Economics	3
AEM 6114	Project Management	3
AEM 6115	Contemporary Management Theory and Practice	3
AEM 6201	Management Accounting	3
AEM 6206	Principles of Marketing	3
AEM 6207	Operations Management	3
AEM 6208	Technology Management	3
AEM 6209	Supply Chain Management	3
AEM 6210	Logistics Management	3
AEM 6301	Information Technology in Business	3
AEM 6306	Business Communication	3
AEM 6315	Organizational Behavior	3
AEM 6316	Industrial Environment Management	3
AEM 6317	Entrepreneurship and Business Development	3
AEM 6318	E-Commerce and International Trade	3
AEM 6319	Management of Innovation	3
AEM 6320	Contract Management	3
AEM 6321	Strategic Management	3
AEM 6322	Financial Management	3
AEM 6323	Total Quality Management	3
AEM 6324	Human Resources Management	3
AEM 6325	Maintenance and Safety Management	3
-	One PG course from other Engineering disciplines	-

Course Detail

AEM 6102: Quality Management Techniques (3 credits)

Statistical process control; Process capability indices; Design of experiment; Taguchi method; Total quality control; Total quality management; Quality function deployment; World class manufacturing; Reliability & quality; Quality audit; ISO 9000 series.

AEM 6111: Business Statistics (3 credits)

Introduction to statistics; Data description: measure of central tendency, dispersion; Probability concepts: discrete and continuous probability distributions; Normal distribution; Sampling theory; Central limit theorem; Confidence interval; Hypothesis testing; Analysis of variance; Linear regression and correlation; Introduction to decision theory.

AEM 6112: Quantitative Analysis (3 credits)

Linear programming; Transportation theory; Assignment problem; Game theory; Dynamic programming; Integer programming; Network analysis; Queuing theory; Application of computer packages.

AEM 6113: Business Economics (3 credits)

Economic systems; Theory of demand: utility theory, indifference and preference theory; Theory of supply; Production, cost and output; Perfect competition, imperfect competition and monopoly; Capital and investment decision techniques; Economic theories related to output, employment, price, exports and imports; Fiscal policy; Trade policy and exchange rate mechanism; International trade.

AEM 6114: Project Management (3 credits)

Project identification and selection; Project financing; Project strategies; Project planning, appraisal and implementation; Project organization: matrix organization; Project manager; Budgeting; Project scheduling and resource allocation; GANTT chart; Network techniques: PERT/CPM; Information system and project control; Contract negotiation and conflict resolution; Technical and financial evaluation of projects; Application of computer packages.

AEM 6115: Contemporary Management Theory and Practice (3 credits)

Understanding management; Evolutionary steps of management; Management: past and present; Taylor's theory; Fayol's theory; Organization and natural environment; Organization design; Operation and control; Ethics and social responsibility; Globalization and management; Inventing and reinventing organizations; Cultures and multiculturalism; Management imperatives: information and openness, managing people, decision support models for managerial decisions.

AEM 6201: Management Accounting (3 credits)

Cost terms; Costing; Cost behavior; Cost planning and control: cost-volume-profit relationship, profit planning, standard cost and performance measures; Flexible budget and overhead analysis; Using cost data in decision making: pricing of products and services, relevant costs for decision making; Capital budgeting; Financial statement analysis; Simulation and computer modeling techniques in management accounting.

AEM 6206: Principles of Marketing (3 credits)

Marketing: definition and concepts; Understanding the market: market behavior and trend, consumer market; Consumer behavior; Industrial market; Industrial procurement; Market segmentation and market structure; Sales forecasting; Marketing organization; Marketing functions: managing products, pricing management, distribution, sales and advertising; Direct marketing; Case studies.

AEM 6207: Operations Management (3 credits)

Introduction to operations management; Production system; Operation of service organization; Forecasting; Inventory management; Work study; Method study; Capacity planning; Aggregate planning; Line balancing; MRP, MRPII and ERP; Just in time production system; Optimized production technology; Operation scheduling and sequencing; Facility planning and layout design; Supply chain management.

AEM 6208: Technology Management (3 credits)

Technology and society; Types and components of technology; Technology and environment; Aspects of technology policies; Economic aspects; Growth of technology; Dependence and self reliance in technology; Technology assessment; Transfer of technology; Technology as strategic components; Technological development and planning.

AEM 6209: Supply Chain Management (3 credits)

Introduction to supply chain; Introduction to materials management; Supply chain logistics; Backward linkage; Forward linkage; Material sourcing: vendor selection (AHP) and scheduling, pricing, negotiation; Inventory management: material classification, coding, inventory control; Stores management; Marketing and distribution planning; Distribution network.

AEM 6210: Logistics Management (3 credits)

Introduction to logistics management; Integrated logistics; Logistical operations; Customer service; Supply chain relationships; Distribution channel structure; Global logistics; Logistics resources; Forecasting and inventory strategy; Transportation; Infrastructure, regulation and management; Warehouse management; Materials handling; Packaging; Delivery; Logistics positioning; Logistics planning.

AEM 6301: Information Technology in Business (3 credits)

IT and its scope and importance in business; Computer system: hardware, software and users; Computer fundamentals; Internet and www; Single user system: Electronic spreadsheets, database applications, multimedia presentations; Multi-user systems: multi user and network computing, shared and distributed data; Business information system and IT; E-commerce; IT in industry; It issues and opportunities; Case studies related to it in business.

AEM 6306: Business Communications (3 credits)

Communication concepts; Communication process; Business report writing; Business correspondence; Public speaking and oral presentation; Technology of business communications; IT in business communication; Case studies, demonstration and assignments.

AEM 6315: Organizational Behavior (3 credits)

Introduction to organizational behavior; Foundations of OB; OB model; Study of individual behavior, group behavior and organization behavior; Values, attitudes and job satisfaction; Personality and emotions; Perception and individual decision making; Basic motivation concepts; Organization system: foundations of organization structure, foundation of group behavior; Communication; Organization design; Organization culture; Dynamics of organization.

AEM 6316: Industrial Environment Management (3 credits)

Sources of industrial pollution; Types of pollutions: air and water pollutions; Classification of industries; Environmental impact assessment; Clean production; Environmental policies of Bangladesh; Protocols, treaties and conventions; Kyoto declaration; Environmental rules and regulations; ISO 14000 series; SA8000; Environmental management system; Environmental economics and accounting system; Case studies.

AEM 6317: Entrepreneurship and Business Development (3 credits)

The meaning of entrepreneur and entrepreneurship; Business climate; Impact of national policies; Capabilities necessary for taking opportunities and risks; Innovativeness and creativity for entrepreneurial success; Entrepreneurial management; Investment analysis; Risk management; Business planning; Business formation and growth; Venture capital; Operational business management; Executive games; Cases of successful entrepreneurs; Process of starting new business.

AEM 6318: E-Commerce and International Trade (3 credits)

Introduction to e-commerce; Communication technologies and management; IT in post-industrial revolution; Supply chain management; Enterprise resource planning; Information alliance; Product and service tracking; Accessibility to business information; Business network; Direct marketing; E-commerce in procurement and marketing; Digital payment; Logistics; Service opportunities; Case studies.

AEM 6319: Management of Innovation (3 credits)

Definition; Linkage between R & D, patenting, innovation and commercialization; Types of innovation; Innovation and technology life cycle; Innovative organization; Innovation and national laws; Innovation financing and risk management; Management of research organizations.

AEM 6320: Contract Management (3 credits)

Business law; Contracts: specifications; Bid documents; Tenders boards; Construction and engineering contract forms; FIDIC: rules and regulations; Contract administration; Arbitration; Patent infringement; Patent laws; Trademarks; Copy right; Professional ethics.

AEM 6321: Strategic Management (3 credits)

Introduction to strategic management; Crafting strategy: corporate, business, functional and operational strategies; Objectives, policies and strategies; Mission and vision; Competitive advantage and capabilities; Tailoring strategy to fit specific industry; Diversification; SWOT analysis; Managing corporate culture and leadership; Evaluating company resources; Case studies.

AEM 6322: Financial Management (3 credits)

Nature of financial management; Time value of money; Impact of interest and inflation; Long term investment decisions: capital budgeting, risk and uncertainty, cost of capital, mergers and acquisitions, lease financing; Financial decisions: operating and financial leverage, capital structure and valuation; Evaluation of project alternatives; Dividend policy decisions: dividend and capital, determinants of dividend policy; Current asset management: working capital management, planning and control of working capital, cash management.

AEM 6323: Total Quality Management (3 credits)

Introduction; Traditional quality vs. TQM; TQM tools and techniques; Employee involvement; Quality circle; Kaizen; Continuous improvement; TQM organization: customer-supplier relationship; Quality improvement programs; Quality awards; TQM in after sale service; Total quality techniques: SPC, Taguchi method; Implementation of TQM in manufacturing and service industries; ISO 9000 and TQM.

AEM 6324: Human Resource Management (3 credits)

Introduction to human resource management (HRM); Organization of HRM; Environmental challenges: internal and external environmental factors; Equal employment challenges; Job analysis and design; Human resource planning; Recruitment, selection, orientation, placement and separation; Training and development; Career planning; Performance appraisal, wages, salaries and incentives; Employee relations; Union management; Human resource audit; Case studies.

AEM 6325: Maintenance and Safety Management (3 credits)

Importance of maintenance, types of maintenance, maintenance models, maintenance scheduling; Integration with production scheduling; Total productive maintenance (TPM); Design of preventive maintenance system, equipment and process reliability, measuring maintenance performance, organization of maintenance, use of computer in maintenance; Evolution of modern safety concept, risk management; Safety measurement; Organization and administration of safety; Cost and benefit analysis of safety, injury and hazard, OSHA responsibilities and implementation; Industrial safety regulations of Bangladesh; Case studies.